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NOTES ON GEOGRAPHIC DISTRIBUTION

Orthoptera, Romaleidae, *Coryacris angustipennis* (Bruner, 1900): First record for the state of Rio Grande do Sul, southern Brazil

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ABSTRACT: This study reports one specimen of *Coryacris angustipennis* (Bruner, 1900), a rare grasshopper, from São Francisco de Paula, state of Rio Grande do Sul, southern Brazil, extending its distribution over 1,800 kilometers from Corumbá, Brazil, and 1,300 kilometers from the type locality, Rosario, Argentina.

Romaleidae represents the most numerous and diverse family of Acridoidea, consists among its members with the larger species, robust and has a flashy bright colored hind wings (Dirsh 1961). The family is found mainly in South and Central Americas, with some representatives distributed by the Asian continent, occupying the full extent of Chinese territory (Rentz 1996).

Coryacris Rehn, 1909 comprises three recognized species: *C. angustipennis*, *C. conspersipennis* Bruner, 1900 and C. *diversipes* Rehn, 1909. All three species were recorded for Chile, Bolivia, Paraguay, Uruguay, Argentina and Brazil (Bruner 1911; Rehn 1913).

The *Coryacris* species are poorly represented in museum collections, and little is known about their life cycle, geographic distribution or habitat association. According to Bruner (1911) the genus is composed of insects with fully developed tegmina and wings in both sexes. *Coryacris angustipennis*, which comprises robust Neotropical grasshoppers, typical of the vegetation near to the water, was first described as *Elaeochlora angustipennis* Bruner, 1900 based on two males and one female collected in Rosario, Province of Santa Fe, Argentina (Rehn 1913). The last works on *C. angustipennis* dates from the beginning or middle of the twenty century (Bruner 1900; Rehn 1913; Bruner 1919; Zolessi 1963).

According to Carbonell *et al.* (2006), *C. angustipennis* is a polyphagous grasshopper, found in wild and cultivated herbaceous plants, usually in Compositae, also in cotton and *Plumbago* sp.

Coryacris angustipennis is characterized by large size and robust body; coloration is usually yellow-green (Figure 1); surface of pronotum and pleura are impresso-punctate; antennae are reddish-brown with 22 segments; eyes are dark; fastigium is longer than wide with apex rounded; frontal costa, sulcate; genae have a white spot; pronotum is tectate, with median carinae pronounced and deeply marked by median sulci; posterior margin of pronotom angulated, with brown spots; lobes of pronotum with orange spots and edges of pronotum are yellowish; wings surpassing the abdomen tip and tegmina are narrow-lanceolate; coloration is green; hind femur is robust, with carinae well pronounced; coloration is yellow with black spots; hind tibiae have green and yellow spots; dorsal surface of the hind tarsi red and apical spines black; internal spines are longer than the external ones; cerci of female are small and conical; supranal plate is triangular; valves of the ovipositor are wide and defined (Rehn 1913; Rehn and Grant 1959; Zolessi 1963).

FIGURE 1. *Coryacris angustipennis* (Bruner, 1900), specimen female. Scale 10 mm

Females of the *C. angustipennis* vary from 48 to 55 mm in length. The oviposition represents a peculiarity of this species. The eggs are laid in the soil at a depth of five to six centimeters, and are grouped in the usual way, but they are not embedded in frothy cemental secretion which agglutinates the eggs in the eggs-pods of most grasshoppers (Zolessi 1963).

In April of 2009 during field studies conducted at the Center for Research and Conservation of Nature (CPCN - Pró-Mata) of PUCRS, in the state of Rio Grande do Sul one adult female specimen of *C. angustipennis* was collected. The Pró-Mata is located in São Francisco de Paula, state of Rio Grande do Sul, Brazil (29°28'51.85" S, 50°10'29. 00" W) (Figure 2).

This area consists of three phytoecological regions, which comprise Ombrophilous Mixed Forest (Araucaria Forest), Ombrophilous Dense Forest (Atlantic Forest),

and an herbaceous - shrubby formation, regionally known as Campos de Cima da Serra (Figure 3). Most large area of the Pró-Mata has altitude of 900 m dominated by the Araucaria Forest. The regional climate, classified according to the Köppen system as Cfb (Moreno 1961), is humid, with annual rainfall ranging from 1,750 to 2,500 mm (Bertoletti and Teixeira 1995). The average annual temperature in the region is approximately 14.5° C, with freezing temperatures occurring from April to November (Backes 1999).

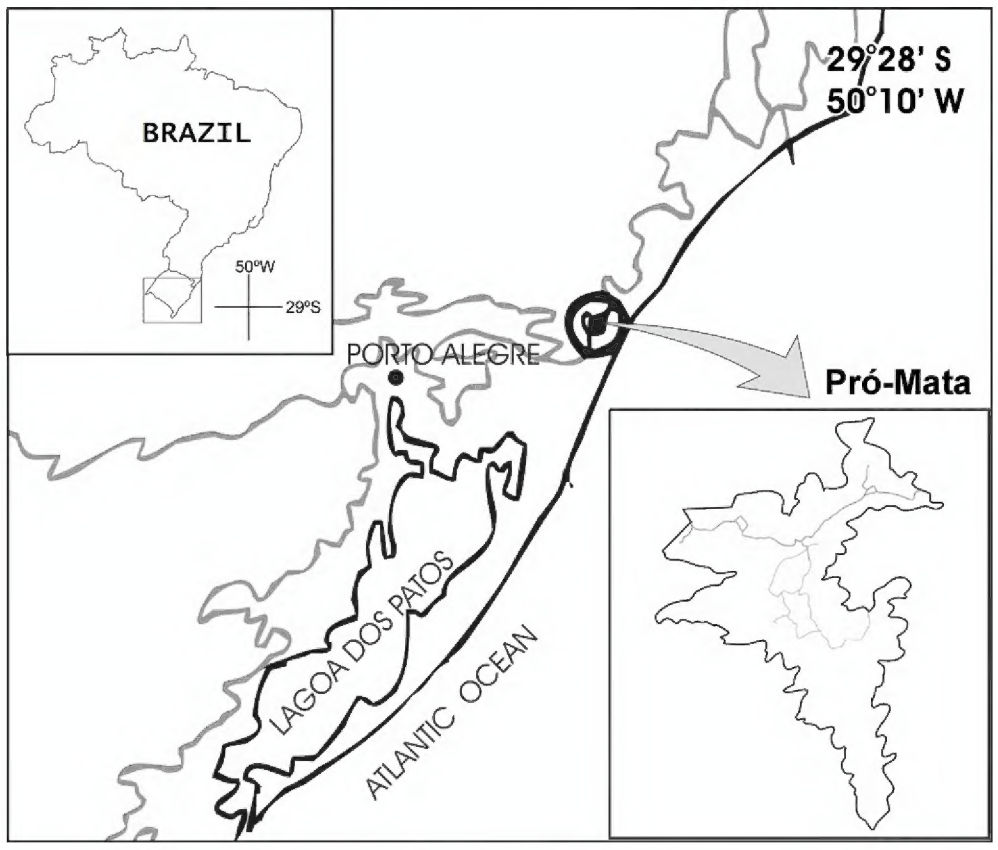

FIGURE 2. Map showing the locality of *Coryacris angustipennis* (black circle indicates the new record (29°28'51.85" S, 50°10'29.00" W), in São Francisco de Paula, state of Rio Grande do Sul.

The examined specimen was collected using an entomological net, during the day, without a special methodological protocol. Afterwards, the specimen was transported to the Department of Biodiversity and Ecology of the Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), and deposited at the Entomological Collection of the same institution (MCTP 16118). The material was determined by Maria Kátia Matiotti da Costa. To better understand the occurrence of this species a distribution map of *C. angustipennis* was made using the VERSAMAP 3.0.

The present record provides an important contribution to the knowledge of geographic distribution of *C. angustipennis*. In Brazil this species is only known to Corumbá, Mato Grosso state, central Brazil (Bruner 1911), then this is the second record to Brazil. For Rio Grande do Sul future efforts of collection are needed to evaluate population and better detect the occurrence of this species outside of its known range. The present work becomes a starting point for future studies that expand the distribution of this species in Brazil. This new record is also relevant for developing conservation strategies for this species, since only with the knowledge of its actual distribution it will be possible to preserve and to use it biogeography studies.

FIGURE 3. The area of Center for Research and Conservation of Nature CPCN-Pró-Mata), south of Brazil, where the *C. angustipennis* was collected. Photo by Letícia Azambuja Lopes.

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